Progress in Electric Utilities Risk Management – Emerging Guidance

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Agenda

I. Background

II. DOE Initiative

III. Elements

IV. Risk Cycle

V. Combined

VI. Projected Impacts

VII. Looking Ahead

VIII. Questions

Background

- Hot Topic
  - *Protection of Electric Utilities and other Critical Infrastructure Elements*
- Maturing Response
  - Mostly Reactive
  - Point Solutions
  - Push Back on Costs
  - Focus on Individual Threats and Assets
- Key Unanswered Question:

What is the overall Sector Risk?

Department of Energy Initiative

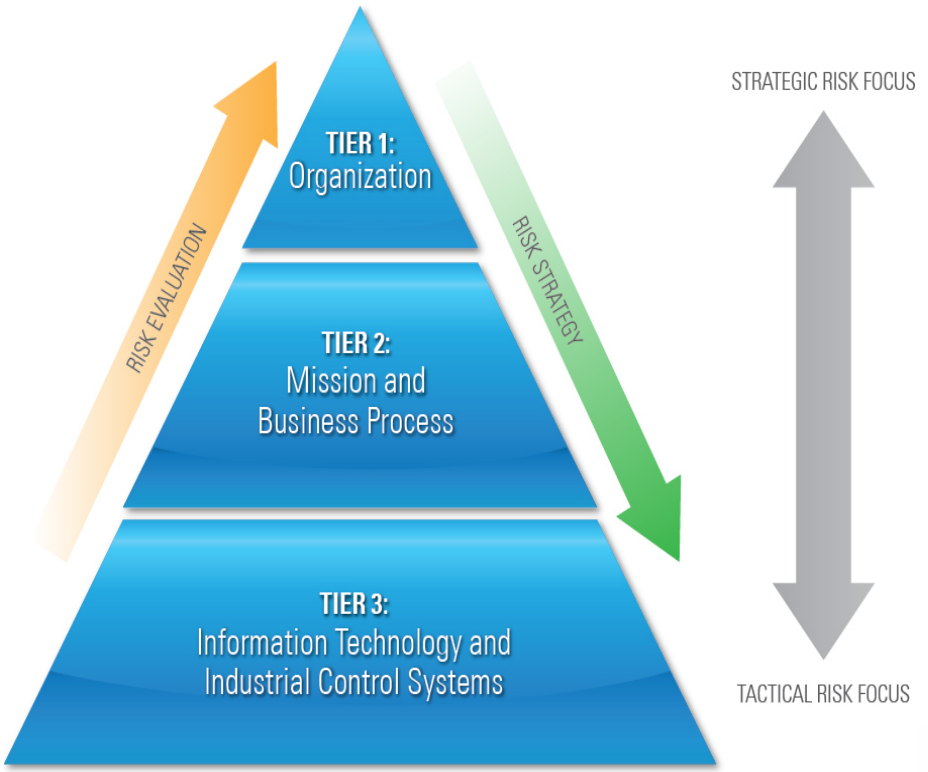
- NIST Special Publication 800-39
  - Managing Information Security Risk Organization, Mission, and Information System View
  - Issued March 2011
- DOE Tuned for Electric Sector
  - In collaboration with NIST, NERC, and other Community Stakeholders
- Result

Electricity Subsector Cybersecurity Risk Management Process

- A Guideline
  - "… not intended to replace or subsume other risk-related activities, programs, processes, or approaches that electricity subsector organizations have implemented."
  - "… not part of any regulatory framework."
  - "… complementary to, and should be used as part of, a more comprehensive enterprise risk management program."

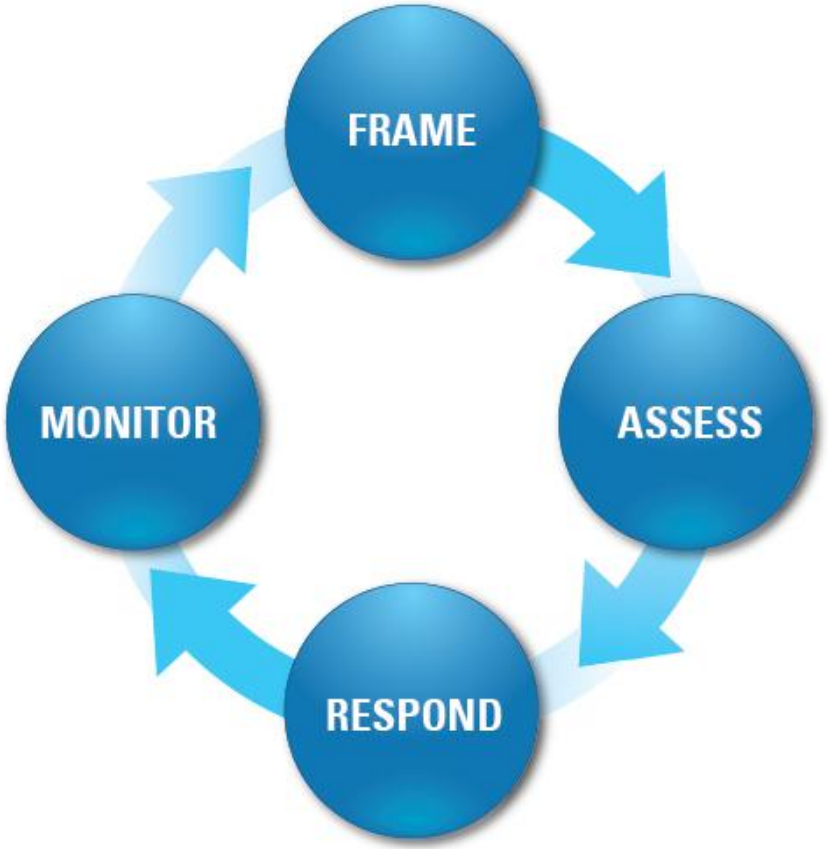
Tiered Model

- Organization
  - Board of Directors and C-level executives
  - Establish governance and reporting
  - Define risk tolerance
  - Establish business objectives and priorities for making trade-offs
  - Defining risk appetite
- Mission and Business Processes
  - Most of the organization's operations
  - Create and enforce required business processes
  - Provide for a disciplined and structured management and monitoring of IT and ICS assets
  - Integrate cyber requirements to processes and planning activities
  - Promote the cost-effective, efficient, and resilient systems
- Information Technology and Industrial Control Systems
  - Contains the specification, acquisition, operation, and monitoring of cyber security controls
  - Determination of IT and ICS asset value and risk
  - Identification and deployment of cyber controls
  - Routine environment assessment and monitoring
  - Response to changes in threats and vulnerabilities

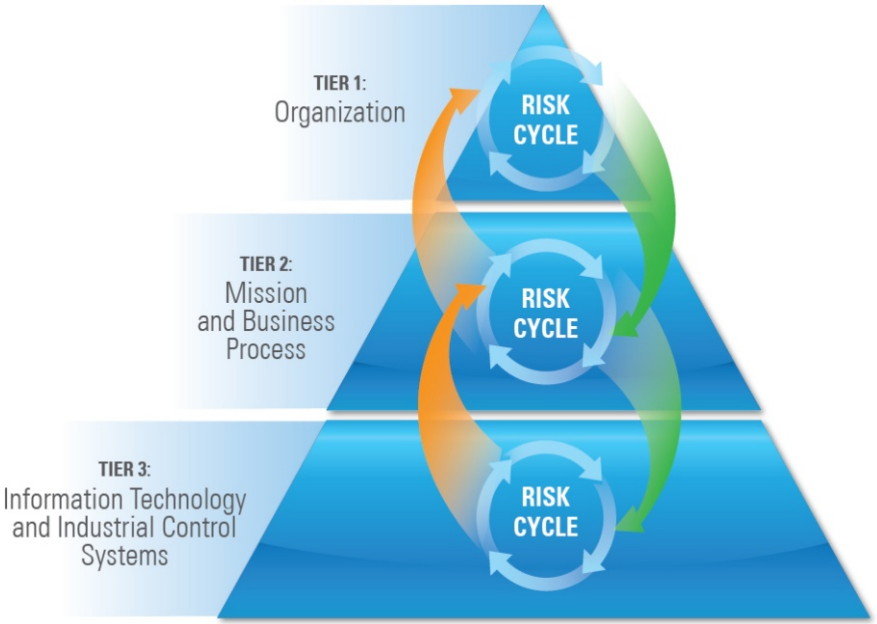


Risk Management Cycle

- Frame
  - Scope and Context
  - External Dependencies
  - Trust Relationships
- Assess
  - Identification and Evaluation of:
    - Threats
    - Vulnerabilities
    - Potential Impact
    - Likelihood of Occurrence
  - Risk => threat, vulnerability, likelihood, consequence/impact
- Respond
  - Determine Alternatives
  - Trade-offs
- Monitor
  - Verify Implementation
  - Determine effectiveness

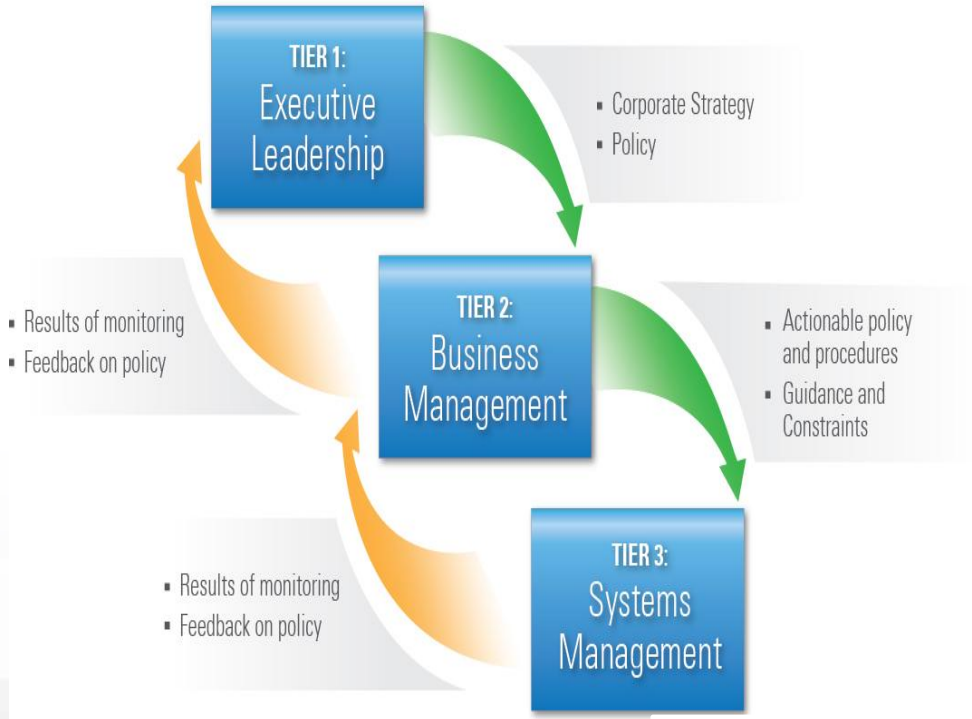


Putting it all Together



Each Tier Informs and Learns from the Others

Complements Existing Roles and Responsibilities



Risk Responses

- Acceptance
- Avoidance
- Sharing and Transfer
- Mitigation

Projected Impacts

- Documentation and Processes
  - A suggested minimum floor of analysis, process, and documentation
  - Can augment existing management activities
- Liability
  - Cyber-based outages are coming
  - Impacted parties will seek recourse
  - Participation in a recognized risk management process
    - Provides a solid basis for defending decisions
- Enabling Sector Visibility and Insight
  - Establishes a common vocabulary
  - Data and experiences can be shared – lessons learned
  - Framework for identifying national remediation initiatives

Looking Ahead

- Most Current Version March 2012
  - http://energy.gov/sites/prod/files/RMP%20Guideline%20Second%20Draft%20for%20Public%20Comment%20-%20March%202012.pdf
  - Public Comments Closed 5 April
  - Expect Finalization in 45-60 Days
- Difficult to Ignore
  - Based on widely accepted principles
  - NIST Foundation
  - Supported by Key Stakeholders – NIST, DOE, NERC, others
- Next Steps
  - Review Current Version
  - Conduct Preliminary Gap Analysis with Current Practices
  - Seek Opportunities for Gradual Adoption

Questions

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